THE JOHNS HOPKINS UNIVERSITY
SCHOOL OF MEDICINE

DEPARTMENT OF MICROBIOLOGY

725 N. WOLFE STREET
BALTIMORE, MARYLAND 21205

February 7, 1979

Dr. I. Arita
Chief, Smallpox Eradication Unit
World Health Organization
1211 Geneva 27 - Switzerland

Dear Dr. Arita:

I am replying to your letter of 22 January asking for my comments on retention of variola virus and further experimentation with the virus. Your committee should know that my background is in molecular virology and that I have not worked with pox viruses. I have, however, read the documents you sent and the report in Nature on the Birmingham incident.

In my opinion, stocks of variola virus should be retained in a few, secure storage sites. I don't believe it is possible to say with assurance that smallpox will not recur, nor that a new variant, infectious for man, will not evolve with time. If such re-emergence does occur, it will be important to know how a new isolate is related to variola virus.

As for further experimentation, I believe it would be worthwhile to characterize the restriction patterns of variola virus DNA, as outlined in the material you sent, and also to prepare and store viral DNA (as well as antisera) for future detailed comparison with any new isolates that may emerge. Non-radioactive DNA is suitable for this purpose. Obviously, any experiments with the virus itself should be carried out only with strict laboratory containment, and with highly trained, vaccinated personnel. The experiments I have in mind should not take more than several months to complete, and the only hazardous part is the preparation of virus. I don't see the need for further animal experimentation with variola virus.

As to the continuing need to maintain variola stocks, it seems to me this is best left to periodic review, perhaps at two or three year intervals.

Sincerely,

Daniel Nathans, M.D.
Professor and Director
Department of Microbiology

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